



Jefferson Lab Alignment Group

Data Transmittal

TO: Dave Kashy

DATE: Jun 09 2004

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Checked:

: B932

DETAILS:

Below are the results of the G11A target and start counter alignment performed during the week of May 17, 2004. All optical tooling measurements are relative to random X and Y gravity based datum planes. All dimensions are in millimeters in a right-handed coordinate system with +X to the beam left, and + Y above.

OPTICAL TOOLING MEASUREMENTS (relative changes on target assembly from initial position)

	LOCATION	Y	X
Start counter removed:	Upst pipe	+0.1	0.0
	Mid flange	+0.3	-0.4
	Dnst flange	+0.9	-0.2
Old target removed, G11A target installed:	Upst pipe	+0.2	-0.3
	Mid flange	+0.5	-0.5
	Dnst flange	+1.4	-0.1
New start counter installed (no Pb):	Upst pipe	0.0	-0.3
	Mid flange	0.0	-0.1
	Dnst flange	+0.2	+0.3
Final with cabling installed:	Upst pipe	-0.2	-0.1
	Mid flange	-0.5	-0.3
	Dnst flange	-0.9	-0.1

START COUNTER ALIGNMENT (Coordinate system relative to ideal target assembly centerline)

	LOCATION	Y	X
1 st Alignment with no Pb:	Beam right edge		-114.3
	Intersection of top and bot beam right edges.	-0.8	-227.5
	Roll angle of beam right side:	179.26°	
	Roll angle of top beam right side:	150.27°	
	Roll angle of bot beam right side:	149.63°	
2 nd Alignment with Pb:	Beam right edge		-114.6
	Intersection of top and bot beam right edges.	-0.6	-228.2

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LASER TRACKER MEASUREMENTS (relative changes on target assembly from initial position)

	LOCATION	Y	X
Start counter and target removed:	Upst pipe	0.0	-0.1
	Mid flange	+0.2	0.0
	Dnst flange	+1.1	+0.2
G11A target installed:	Upst flange	+0.4	-0.1
	Mid flange	+0.5	-0.1
	Dnst flange	+1.8	+0.3

LASER TRACKER MEASUREMENTS CONTINUED AFTER START COUNTER ALIGNED

NOTE: The following measurements are relative changes from initial position, not target assembly centerline.

	LOCATION	Y	X
G11A target and start counter aligned with Pb:	Upst pipe	-0.2	-0.2
	Mid flange	+0.4	+1.9
	Dnst flange	-0.2	0.0
	Beam right side start counter.		-114.0
	Intersect top-bot beam right edges.	-1.1	-227.9
G11A target and start counter aligned with Pb removed:	Upst pipe	-0.1	-0.3
	Mid flange	+0.7	+1.8
	Dnst flange	+0.4	+0.2
	Beam right side start counter.		-114.3
	Intersect top-bot beam right edges.	-0.8	-227.8
Start counter adjusted for cabling weight:	Beam right side start counter.		-114.4
	Intersect top-bot beam right edges.	+0.4	-228.2
	Dnst flange	+0.3	+0.1
Cabling for start counter installed:	Dnst flange	-0.8	+0.2

Estimated installed location of target based on previous alignment performed on Mar 11, 2004

	Y	X
Previous alignment	+0.1	-0.6
Current alignment based on optical measurements.	-0.8	-0.7
Current alignment based on tracker measurements.	-0.7	-0.4